

APOLLO SOYUZ TEST PROJECT (ASTP)

DIRECTIVE NO. 8\*

TO: DISTRIBUTION

FROM:

Chester M. Lee  
Chester M. Lee  
Program Director, ASTP

SUBJECT: Apollo Soyuz Flight Readiness Review

OFFICE OF PRIME RESPONSIBILITY (OPR): ASTP Engineering (MAE)

REFERENCES: (a) Apollo Soyuz Test Project Directive No. 6 dated June 25, 1973,  
Key Inspection, Review and Certification Checkpoints and  
Their Documentation

(b) Apollo Test Requirements, NHB 8080.1A

I. PURPOSE

This directive defines the review procedure and requirements for the ASTP Program Director's Apollo Soyuz Flight Readiness Review (FRR) to be conducted prior to the Apollo Soyuz mission. It also defines the reporting procedure for FRR open actions and open work resulting from and developing subsequent to the FRR. The FRR will be conducted as a consolidated review of all hardware, software, and operational elements to assess their mission readiness. Reference (a) shows the relationship of the FRR to other Apollo Soyuz hardware development and key inspection, review and certification checkpoints.

II. SCOPE

The FRR covers the readiness assessment of the spacecraft, docking module, docking system, experiments, launch vehicle, ground support equipment (GSE), launch complex, launch support, all operational elements, flight experiments, all software including computer programs, and all safety and emergency provisions and procedures. The reporting procedures for open actions and open work cover the period between the FRR and launch.

III. FRR GUIDELINES AND SECRETARIAT LETTERS

Approximately six weeks prior to the FRR, a guidelines letter will be prepared by ASTP Engineering, coordinated with the cognizant ASTP Directorates and issued by the ASTP Program Director. It will contain special requirements not covered in subsequent paragraphs of this Directive and a preliminary agenda identifying topics and time allotments. Approximately one month prior to the FRR, a secretariat letter will be issued establishing a secretariat and the procedures for conducting the FRR.

\*Vertical bars in right margin indicate changes from APD No. 8B dated 6/16/71.

IV. FRR SCHEDULE

The FRR will normally be held subsequent to the Flight Readiness Test (FRT) and prior to space vehicle hypergolic loading and is subsequent to Center Pre-FRR meetings. The exact FRR date will be established in the FRR Guidelines letter.

V. ACCEPTANCE OF PRE-FRR ITEMS

The Director, ASTP Engineering, will attend each Center Pre-FRR acting for the ASTP Program Director, and will accept items he determines to be completed and not requiring the Program Director's review. Such items will not appear on the final FRR agenda except for problems which may occur between the Pre-FRR and the FRR. Buy-off will be accomplished by a meeting subsequent to the Pre-FRR or by TWX within two working days following the Pre-FRR.

VI. FRR PRESENTATION REQUIREMENTSA. Responsibility for Major Agenda Items

The responsibilities for major agenda items are as follows:

1. Review Objectives - ASTP Program Director
2. Mission Summary - Director of Flight Operations (JSC)
3. Spacecraft - ASTP Program Manager (JSC)
4. Docking Module, Docking System & Experiments\* - ASTP Program Manager (JSC)
5. Launch Vehicle\*\* - ASTP Program Manager (MSFC)
6. Launch Complex - ASTP Program Manager (KSC)
7. Launch Operations and Support - Director, Launch Operations (KSC)
8. MCC Readiness - Director of Flight Operations (JSC)
9. Network Readiness - Network Director (GSFC)
10. Flight Crew Readiness - Director of Flight Crew Operations (JSC)  
Director of Medical Research & Operations (JSC)
11. Recovery Readiness - Director of Flight Operations (JSC)

\*Includes certification that the Joint Flight Readiness Review (JFRR) was satisfactorily completed and review of any JFRR open items. The detail requirements of the JFRR are covered in ASTP Dir. No. 6 (Reference (a)).

\*\*Includes POGO assessment.

12. Operations Summary - ASTP Operations Director

13. Action Item Summary - ASTP Program Director

B. Delta Concept

The Center presentations at the FRR will employ a delta concept from previous Apollo and Skylab missions in satisfying review requirements. It is essential, however, that the presentations completely identify the baseline for the deltas.

C. Presentation Emphasis

Presentation topics and scope should be that required to provide the ASTP Program Director with the information he needs to make a judgement as to flight readiness. Agenda topics, consistent with the Pre-FRR buy-off, will normally:

1. Commence with an overall readiness summary, be followed by appropriate supporting detail and conclude with a readiness assessment.
2. Emphasize recent significant resolved problems when necessary to establish confidence.
3. Emphasize significant unresolved problems and constraints to the mission.
4. Within the scope of C. 2. and C. 3. above, cover problems or changes in areas such as:
  - a. Hardware and software checkout and test operations.
  - b. Hardware configuration.
  - c. Computer program verification.
  - d. Waivers and deviations.
  - e. Development, qualification, and reliability testing.
  - f. Critical life components.
  - g. Launch critical spares.
  - h. Shortages and open work.
  - i. System safety.
  - j. Launch and flight preparations.
  - k. Single Failure Points (Category I and II as defined by Reference (b)).
  - l. Sneak Circuits
5. Emphasize special problems, arrangements, or constraints which result from the joint USA/NASA - USSR/NAS effort.

VII. FRR DOCUMENTATION REQUIREMENTSA. Prior to the FRR

At least one paper copy of the final Center Pre-FRR documentation is required by ASTP Engineering (MAE) immediately following each Pre-FRR. At the same time, JSC and MSFC will also supply MAE with information as to the status of Certificate of Flight Worthiness (COFW) endorsements. Endorsements will be those required by reference (b) and the Centers.

B. At Time of the FRR

Vu-graphs will be used at the FRR and will be retained by ASTP Engineering (MAE) until after launch. Thirty paper copies of the vu-graphs will be provided to the APO Secretariat immediately prior to the FRR by the Center official responsible for each oral assessment. JSC and MSFC will provide MAE with an updated status of the COFW endorsements for inclusion in the FRR Minutes.

VIII. FRR CLOSEOUT REPORTING REQUIREMENTSA. Weekly Reports to the ASTP Program Director on Status and Closeout of Open Actions and Open Work

The ASTP Program Managers will report by TWX each Thursday the status and closeout of open actions designated at the FRR by the Program Director and the open work identified at the FRR by the Program Managers and recorded in the FRR Minutes. They will also report on open actions designated subsequent to the FRR by the Program Managers.

1. Open actions designated at the time of the FRR will be numbered sequentially by Center Letter-Center Sequence Number. (For example, K-1 for the first KSC Apollo Soyuz open action, as H-1 for the first MSFC (Huntsville) action and as T-1 for the first JSC (Texas) action.) Open actions involving two Centers will be assigned two numbers, one for each Center.
2. Significant open actions designated subsequent to the FRR will be reported to the Program Director. Routine open actions that can be corrected prior to the launch and actions which do not delay the launch or violate space vehicle or launch complex configuration integrity or cause basic changes to mission rules, flight plan, or abort and alternate mission plans, need not be reported. Each new open action reported will be given a brief title/description, an estimated completion date, and a number which follows sequentially those assigned at the FRR. (See preceding paragraph for numbering.)

3. Reporting of open actions being rescheduled will include the reason for rescheduling, actions planned for closeout, and the new closeout date.
4. Reporting of open actions closed out will state fully the basis for closeout, that is: actions taken, data obtained, and determinations made.
5. Launch Vehicle open actions which entail joint MSFC-KSC responsibilities and spacecraft, docking module, docking system and experiment, open actions which entail joint JSC-KSC responsibilities will be reported closed out by MSFC and JSC Program Managers respectively based on coordination with the Program Manager at KSC. Closeout reports on these open actions will indicate the KSC Program Manager's concurrence.
6. Open actions will be identified by the numbers assigned at the FRR. Open work will be identified by the numbering established in the FRR Minutes.
7. Reporting of open work closed out will state the basis for closeout if the work is considered to significantly affect configuration integrity, or if the basis for closeout is other than completion as planned at the time of the FRR.

B. Weekly Reports Information Copies

Information copies of these weekly reports will be sent by the issuing Center to the Program Managers at the other Centers.

IX. ACTION

This Directive shall be implemented by the ASTP Program Managers to insure effective planning for and conduct of an FRR for the Apollo Soyuz mission and for FRR reporting.

X. CANCELLATION

This Directive supercedes Apollo Program Directive No. 8B issued June 16, 1971.



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION  
JOHN F. KENNEDY SPACE CENTER  
KENNEDY SPACE CENTER, FLORIDA 32899

REPLY TO  
ATTN OF:

AA-RQA

JUL 25 1973

MEMORANDUM

TO: Distribution

FROM: AA/Acting Manager, Apollo-Skylab Programs

SUBJECT: Apollo Soyuz Test Project (ASTP) Directive No. 8,  
Apollo Soyuz Flight Readiness Review

ASTP Directive No. 8, copy enclosed, has been received and reviewed by this office. As discussed in the attached briefing note, only minor changes will be required to the existing KPD 8620.1, "Apollo/Saturn Flight Readiness Reviews" which will be reissued as KPD 8620.X. Few if any changes should result in the current KSC planning activities in support of the OMSF FRR or the KSC Launch Readiness Review.

*William H. Rock*  
William H. Rock

2 Enclosures

Distribution:  
Apollo-Skylab Distribution "M"

*For Mr*

JUL 23 1973

Dr. Debus:

SUBJECT: Apollo Soyuz Test Project (ASTP) Directive No. 8,  
Apollo Soyuz Flight Readiness Reviews

The subject directive, dated June 25, 1973, contains exactly the same FRR requirements as Apollo Program Directive 8B, which it supersedes, except for the following changes:

- a. The use of the ASTP nomenclature in place of Apollo
- b. the substitution of the Docking Module, Docking System and Experiments in place of the Lunar Rover Vehicle, and
- c. the addition of a statement requesting that FRR presentations emphasize any special problems, arrangements or constraints which result from the joint USA/NASA - USSR/Academy of Sciences effort.

Center compliance with ASTP Directive 8 requires that existing KPD 8620.1/AA, "Apollo/Saturn Flight Readiness Reviews," be revised as above and reidentified accordingly as KPD 8620.X/AA. In effect, the subject directive would have little or no impact to the plans, preparations or conduct of the KSC Launch Readiness Review or the KSC portion of the OMSF FRR.

*William H. Rock*  
William H. Rock